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## What is claimed is:

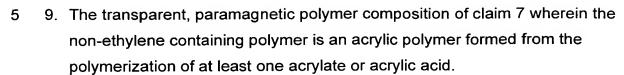
- A transparent, paramagnetic polymer composition comprising a non-ethylene containing polymer complexed with a sufficient amount of one or more rare earth ions selected from the group consisting of elements 64 69 to provide a polymer composition magnetic mass susceptibility of greater than 20 x 10<sup>-6</sup> emu/g measured at 298°K.
  - 2. The transparent, paramagnetic polymer composition of claim 1 wherein the non-ethylene containing polymer is a fluoropolymer with sulfonic or carboxylic acid functionality.
  - 3. The transparent, paramagnetic polymer composition of claim 1 wherein the non-ethylene containing polymer is an acrylic polymer formed from the polymerization of at least one acrylate or acrylic acid.
  - 4. The transparent, paramagnetic polymer composition of claim 3 wherein the transparent, paramagnetic polymer composition additionally comprises a short-chain fatty acid of the formula  $R_1COOH$  wherein  $R_1$  is selected from the group consisting of  $C_5 C_{30}$ .
  - 5. The transparent, paramagnetic polymer composition of claim 3 wherein the acrylate is methyl methacrylate and the acrylic acid is methacrylic acid.
- 25 6. The transparent, paramagnetic polymer composition of claim 4 wherein the acrylate is methyl methacrylate, the acrylic acid is methacrylic acid, and the short chain fatty acid is oleic acid.
  - 7. A transparent, paramagnetic polymer composition comprising a nonethylene containing polymer complexed with one or more rare earth ions selected from the group consisting of elements 64 – 69, the amount of rare earth ions being greater than 9 weight percent based on the total weight of the transparent, paramagnetic polymer.
  - 8. The transparent, paramagnetic polymer composition of claim 7 wherein the non-ethylene containing polymer is a fluoropolymer with sulfonic or carboxylic acid functionality.

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- 10. The transparent, paramagnetic polymer composition of claim 9 wherein the transparent, paramagnetic polymer composition additionally comprises a short-chain fatty acid of the formula R<sub>1</sub>COOH wherein R<sub>1</sub> is selected from the group consisting of C<sub>5</sub> C<sub>30</sub>.
- 11. The transparent, paramagnetic polymer composition of claim 9 wherein the acrylate is methyl methacrylate and the acrylic acid is methacrylic acid.
- 12. The transparent, paramagnetic polymer composition of claim 10 wherein the acrylate is methyl methacrylate, the acrylic acid is methacrylic acid, and the short chain fatty acid is oleic acid.
- 13. A transparent, paramagnetic polymer composition comprising a nonethylene containing polymer complexed with one or more rare earth ions selected from the group consisting of elements 66 – 67, the amount of rare earth ions being greater than 5 weight percent based on the total weight of the transparent, paramagnetic polymer.
- 14. The transparent, paramagnetic polymer composition of claim 13 wherein the non-ethylene containing polymer is a fluoropolymer with sulfonic or carboxylic acid functionality.
- 25 15. The transparent, paramagnetic polymer composition of claim 13 wherein the non-ethylene containing polymer is an acrylic polymer formed from the polymerization of at least one acrylate or acrylic acid.
  - 16. The transparent, paramagnetic polymer composition of claim 15 wherein the transparent, paramagnetic polymer composition additionally comprises a short-chain fatty acid of the formula  $R_1$ COOH wherein  $R_1$  is selected from the group consisting of  $C_5 C_{30}$ .
  - 17. The transparent, paramagnetic polymer composition of claim 15 wherein the acrylate is methyl methacrylate and the acrylic acid is methacrylic acid.
- 18. The transparent, paramagnetic polymer composition of claim 16 wherein the acrylate is methyl methacrylate, the acrylic acid is methacrylic acid, and the short chain fatty acid is oleic acid.